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OFFICIAL JOURNAL OF
THE MUSHROOM GROWERS'
ASSOCIATION

MGA
BULLETIN

APRIL, 1952 · NUMBER 28

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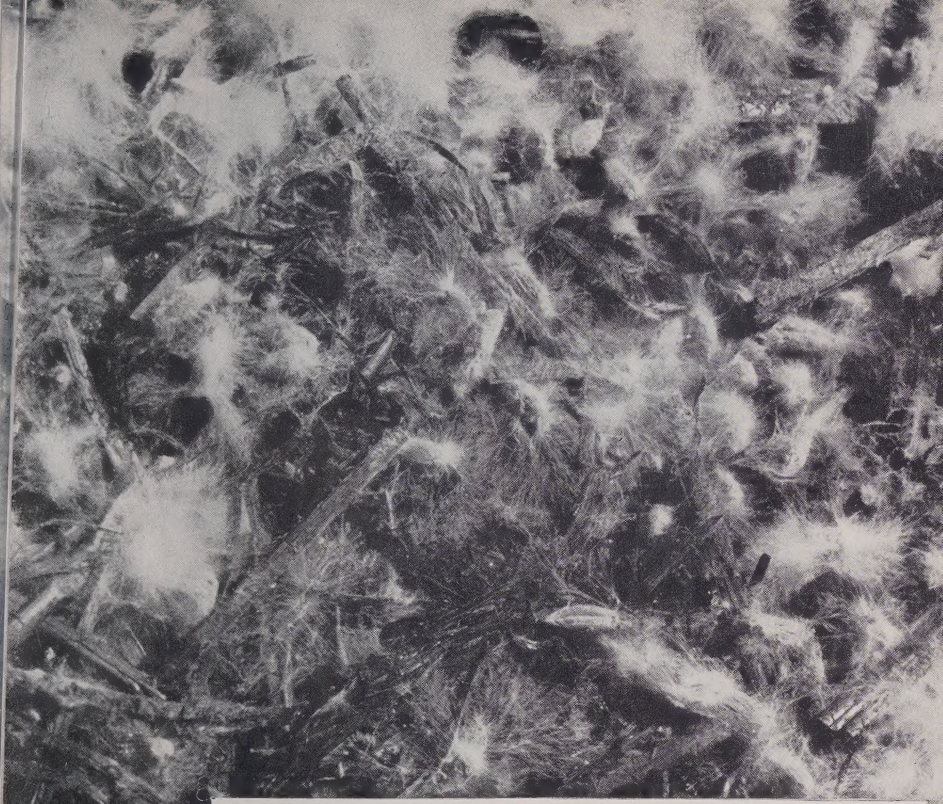

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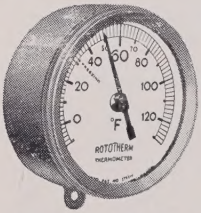

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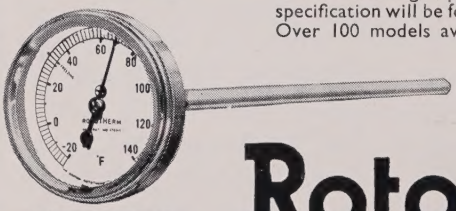

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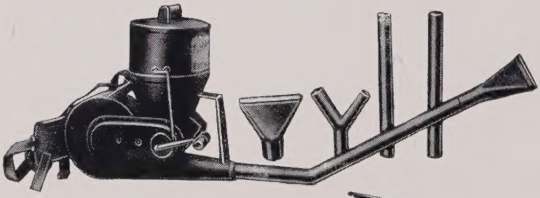

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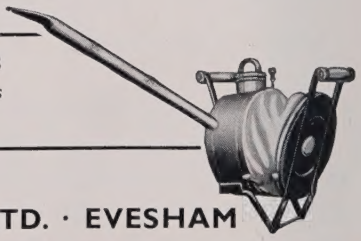

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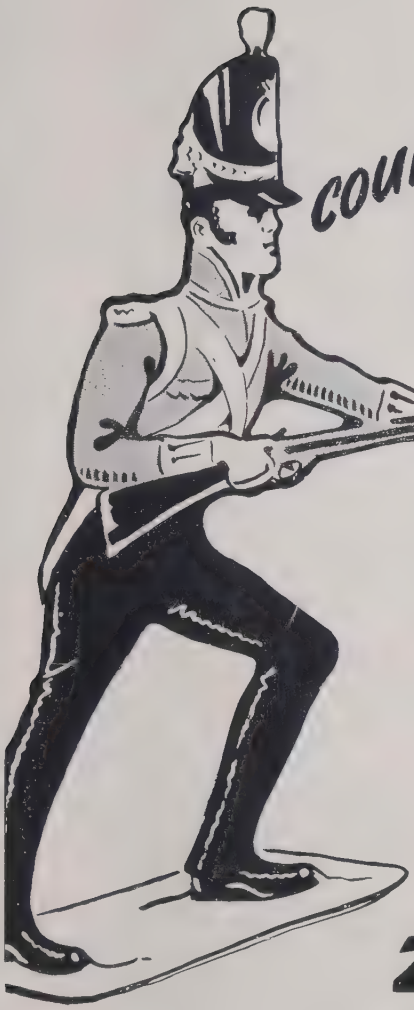

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Our Advisory Department will be pleased to give information or guidance on Mushroom Growing to any commercial grower.

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APRIL
1952
NUMBER 28

EDITORIAL

A Word from the Chairman

Just half-way through my year in office as Chairman of the Mushroom Growers' Association, I am glad to have this opportunity of taking stock.

On taking over as your Chairman last October I appealed to you, the members, to come forward with any suggestions which would strengthen the Association and attract more members. The members of the Executive and I would like to thank all those who have co-operated in this way.

At the Annual Meeting I told you we hoped to publish news sheets to fill in the three-month gap between the appearance of each Bulletin. Instead we have been very daring and before you is the second of our monthly Bulletins. I feel sure you will agree that a most promising start has been made and for the sake of the industry I wish it well.

In March we had quite the biggest and best of our trade shows, fully justifying its prouder title of Mushroom Industry Exhibition. We all felt it was Sussex's turn to be the scene of a major M.G.A. event and the growers around Worthing responded nobly.

There is no doubt that the M.G.A. is getting growers together in a manner never possible before, and these gatherings are fruitful in many ways. I personally am always very happy to meet mushroom growers individually and in the mass, and I am glad to say a number of Area meetings are being arranged for the summer months.

I would like to commend to your attention the M.G.A./M.R.A. Refresher Course at Peterborough on 24th April. There will be very worthy speakers on both scientific and practical matters which are of vital and stimulating interest to all connected with the industry. I hope all the accommodation is not taken up already.

We have had some very excellent co-operation and suggestions from members regarding Publicity. These are all being considered most actively by your committee. We are at present hampered for lack of funds but we shall not let that deter us from going ahead with the less ambitious plans, and making the strongest endeavour to put an attractive publicity campaign afoot.

J. STEWART-WOOD.

RESEARCH APPEAL, 1952

£800 In—Another £700 Wanted

Last November the M.R.A. Chairman launched his appeal for funds to maintain Mushroom Research at Yaxley during 1952. " Please send the M.R.A. as much as you think it worth your while to afford," he said. " Help us, if you can, to do a little better than we did in 1951. It would be a tragedy not to keep the M.R.A. in being for the next year or two until the new Glasshouse Station is in a position to take over the financial responsibility."

We ought not to be expected to bear this financial burden much longer. Until we lay it down, let us keep the Station going so that the Directors can put forward a strong case for the continuance of the programme on its present scale—either at Yaxley or at the new Glasshouse Station.

Messrs. Francis Nicholls Ltd., the well-known market salesmen of Birmingham and elsewhere, wrote on 13.12.51 : " It was disappointing to us to learn from your letter of the 1st November that the financial support you were able to obtain for 1951 was so low, and we trust that the Appeal you have just issued will meet with a more wholehearted response. Handling, as we do, very substantial quantities of mushrooms, we are very conscious of the urgent necessity for further research into the causes, prevention and cure of the many diseases and pests to which crops are subject. Having supported your organisation regularly hitherto, we feel that we should continue for at least a further year and consequently have pleasure in enclosing our cheque value one hundred guineas."

Mr. Fred. Atkins at once replied : " We are deeply indebted to you for your most kind letter of 13th December. Begging money year after year, even for such a worthy and worthwhile cause as Mushroom Research, is not an enjoyable occupation. But now and then there comes in response a gesture of such generosity that we feel more than recompensed for our endeavours. Your **fourth successive annual cheque for One Hundred Guineas** is such a gesture, and it is difficult to know how to express our appreciation. The whole of the Mushroom Industry will echo our Thank You when it hears of your wonderful support for the Yaxley Station. We are trusting that the past year's better prices will enable growers to subscribe on a more helpful scale to bring us safely through 1952, when we should be in sight of the date when the new national glasshouse research Station can take over from us the full financial burden. *We believe we have, with the help of the Trade, above all, of yourselves, demonstrated our desire for adequate research.*"

Messrs. John Beveridge & Co. Ltd. were equally prompt, and with their customary generosity sent us £50 with their best wishes.

Among the sums contributed by Bankers' Orders is a keenly appreciated £30 from **General Sir Oliver Leese.**

Messrs. W. Darlington & Sons Ltd., Messrs. Plant Protection Ltd. and **Messrs. Tenterden Mushrooms** (Basil & Noel Harding) each contributed a most acceptable 25 guineas ; **Messrs. Noble Mushrooms Ltd.** sent £25 ; and **Captain G. P. Lawrence, Mr. M. H. Pinkerton** and **Mr. J. Stewart-Wood** £20 each.

From abroad came much appreciated donations from the United States (Mr. John Yoder), Sweden (Mr. Gunnar Westin), South Africa (Mr. W. Denny and Mr. R. G. Scott), France (Mr. Guiochon) and Italy (Mr. Casamassima).

There was gesture of goodwill from the Worthing and West Sussex Growers, over and above the cheques from their individual members.

Mr. W. A. B. Harding wrote as follows : " When supporting the two distinct Associations of the Mushroom Industry we have always regarded our subscriptions in the light of a normal Insurance Policy and we feel that if this point was put and stressed to growers who continually fail to subscribe, they might see the matter from another angle and regard it just as essential as their usual fire and other insurances which they would not dream of allowing to elapse."

May we pass on these sentiments to those whose names do not appear below ? We need £1,500. We are only just past the half-way mark.

The new Chairman (Mr. J. Stewart-Wood) and the Board of Directors of the Research Station acknowledge with sincere thanks the following cheques (figures are complete up to 25th February) :

	£	s.	d.
Nicholls, Francis & Co. Ltd.	105	0	0
Beveridge, J. & Co. Ltd.	50	0	0
Darlington, W. & Sons Ltd.	26	5	0
Plant Protection Ltd.	26	5	0
Tenterden Mushrooms	26	5	0
Noble Mushrooms Ltd.	25	0	0
Lawrence, Captain G. P.	20	0	0
Pinkerton, M. H.	20	0	0
Stewart-Wood, J.	20	0	0
Yoder, J., Butler County Mushroom Farm (U.S.A.)	17	14	5
Broome & Green Ltd.	10	10	0
Monlough Food Production Co. Ltd.	10	10	0
Murphy Chemical Co. Ltd.	10	10	0
Thwaites, J. (Cardiff) Ltd.	10	10	0
Thwaites, J. (London) Ltd.	10	10	0
Thwaites, J. (Liverpool) Ltd.	10	10	0
Thwaites, J. (M'chester) Ltd.	10	10	0
British Basket & Besto Ltd.	10	0	0
Collier, Sir Conrad	10	0	0
Collingridge, J. Ltd.	10	0	0
Dumbreck, R. D.	10	0	0
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Funnell, C. & W.	10	0	0
Griffiths, G. C.	10	0	0
Gook, E. A.	10	0	0
Greenyer Bros.	10	0	0
Leatherland, G. E. Ltd.	10	0	0
Linfield, A. G. Ltd.	10	0	0
Morgan, Wm. Ltd.	10	0	0
Paget, C. & Son Ltd.	10	0	0
Poupart, T. J. & Co.	10	0	0
Sampson, S. A. F.	10	0	0
Stedall, G. St. G.	10	0	0
Westin, G. (Sweden)	10	0	0
Wills, A. R. Ltd.	10	0	0
Young, J. B. & F. W. Ltd.	10	0	0
Smith, W. D.	7	7	0
Broadham Produce Co. Ltd.	6	6	0
Faulkner, H.	6	6	0
Leeney, A. G.	5	16	0
Bell, Lt. Col. H. G.	5	5	0
Brown, P. C.	5	5	0
Collins, G.	5	5	0
Edwards, The Misses J. & A. H.	5	5	0
Rooke, Dr. A. R.	5	5	0
W. Stevens	5	5	0
Walker, A.	5	5	0
Worthing & West Sussex Growers N.F.U.	5	5	0
Adco Ltd.	5	0	0
Baker, A. Ltd.	5	0	0
Bardsley, F. & Son	5	0	0
Clifford, W. & Sons Ltd.	5	0	0
Denny, W. (South Africa)	5	0	0
Fell, H. H.	5	0	0
Godfrey, W.	5	0	0
Housing Estates Ltd.	5	0	0
Meath Packers Ltd.	5	0	0
Oliver, A. P.	5	0	0
Smith, G. C.	5	0	0
Thompson, J. R.	5	0	0
Berry, A. G.	4	4	0
Carr, J. Hunter	4	4	0
Carried forward	£736	2	5

RESEARCH APPEAL—*continued.*

	£	s.	d.
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Sancewicz, Z.	4	0	0
Dermody, R.	3	3	0
Ewart, N. P.	2	2	0
Gilchrist, R.	2	2	0
Griffiths, D.	2	2	0
Johnson Bros. & Co. (Derby) Ltd.	2	2	0
Maney, W. S. & Son	2	2	0
Richardson, Hy. Ltd.	2	2	0
Smith, G. W. & Son	2	2	0
Vansittart, K. B.	2	2	0
Jackson, T.	2	0	0
Partridge, A. B.	2	0	0
Wild, R. F.	2	0	0
Wright, C. W.	2	0	0
Guiochon, P. (France)	1	14	0
Casamassima, G. (Italy)	1	10	0
Canga Mushrooms Ltd.	1	1	0
Howitt, F.	1	1	0
Kevan, D. R.	1	1	0
Scott, R. G. (South Africa)	1	1	0
Smith, M.	1	1	0
Warwick, R. G.	1	1	0
Clarke, M. S.	1	0	0
Hall, A.	1	0	0
Parkinson, G.	1	0	0
Thew, W.	1	0	0
Wells, J. A.		9	0
	£794	12	5

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Davey & Co. 10/- ; Elan Valley Products 10/- ; Hopping, C. H. Ltd. £1 0s. 0d. ; Heather Farm £1 10s. 0d. ; Kilian, H. £1 5s. 0d. ; Kildare Products £1 0s. 0d. ; Leese, Sir Oliver £2 10s. 0d. ; Makowski, W. 5/- ; Snowcap Mushrooms Ltd. 16/8 ; Turner, Colonel 10/- ; Ulm, J. 8/4.

MUSHROOMS THE MAGICIANS

by PHILIP HARBEN

Whatever may be the direct nutritional value of mushrooms (a painfully controversial subject on which we need not dwell), it is beyond all argument and dispute that they excel all other foods in their power to transform the simplest things into banquet fare. Indeed, so small a quantity of them is needed to do this, that the cost hardly comes into the picture at all. In the many canteens for which I am responsible, the cheapest dishes on the menu are often the ones garnished with mushrooms.

It is not only in their flavour that their value lies, but also in their appearance ; for a firm fresh mushroom can be cut into a great many neat slices which, tastefully arranged upon a cooked dish, are a pretty sight to behold, most pleasing to that highly important gastronomic organ, the eye. I am thinking particularly of a dish of scrambled eggs so crowned and embellished, or sauced fillets of some fish as humble as plaice or herring or bream.

But there are other uses in which the appearance of the mushrooms is not exploited and it is the flavour alone that is relied upon. Now that by some modern genetic and biological miracle the majority of cattle are apparently being bred without either tails, kidneys or livers, it is good to find that mushrooms in a steak and kidney pudding, for instance, make it not only easy to forgive the absence of kidney but also more than reconcile one to the inevitably meagre content of meat.

Have you ever tried cooking a small joint of lamb on a generous bed of mushroom purée (with a little bit of garlic and a few herbs) ? I will gladly trade my portion of the meat for more than my fair share of the mushroom.

But the three particular suggestions I want to offer in this article are concerned with three foods which, entirely by themselves, are very plain and dull, and to be regarded mainly as vehicles for flavour : rice, spaghetti and sausages. I am as sorry as you are to see the sausages in this list ; time was when the simple pork sausage was a first-class food in its own right, but not now. Each of these things can be transformed by mushroom wizardry into as fine a dish as a hungry gourmet could desire.

MUSHROOM RISOTTO (4 portions) : Fry 2 oz. of onions in 4 oz. of dripping ; when the onions begin to take colour add $\frac{3}{4}$ lb. of uncooked rice and fry that too until it acquires the palest biscuit colour. Pour off any surplus fat. Add a quart of hot stock, or hot water well flavoured with meat or vegetable extract (e.g. Marmite, Maggi, Oxo, Bovril, etc.) well salted. Cook for about 20 minutes with the lid on, by which time all the rice should be plumped up and tender and have absorbed all the liquid. (If there is too much liquid, boil rapidly with the lid off for a few moments). Meanwhile slice some mushrooms neatly and cook them for a few seconds, preferably in butter or margarine. Dish up the risotto in a neat mound and garnish it beautifully with overlapping slices of mushroom. Serve with grated cheese.

SPAGHETTI with MUSHROOMS : Cook the spaghetti (whole, do not break it up) for about 12 minutes in plenty of salted water—it should be slightly firm when done, not too slithery and soft. Meanwhile chop mushrooms finely and cook them in very little water and very little fat until all the water has boiled away and the fat alone remains. Drain the spaghetti, pile it up in a serving bowl and anoint it with the mushrooms.

SAUSAGES and MUSHROOMS : Cook the sausages under the grill for ten minutes, turning them occasionally. Then range the mushrooms (small but whole) in the pan so that they get the fat from the sausages, and give another five minutes cooking.

DANISH MUSHROOM LABORATORY

The Danish Government has now completed arrangements for a Danish Mushroom Laboratory to be set up. It will be associated with the Agricultural High School at Copenhagen, and will be directed by Mr. C. R. Rasmussen, a graduate of the Agricultural High School, who studied experimental methods at the Mushroom Research Station, Yaxley, for two months last year. This project is due to the efforts of Prof. Hother Paludan, who has often been to England, most recently in 1950 for the International Conference on Mushroom Science.

Mr. Rasmussen plans to have two cropping houses, one with 770 sq. ft. of shelf beds, and the other with 500 sq. ft. in trays, served by a heat room. These are expected to be ready for use by the end of this year. Meanwhile Mr. Rasmussen is going on a tour of American Research Laboratories and commercial farms.

Mr. Middlebrook Consults His Diary

Jan. 8th. Our sandy soil plus peat mixture (compulsory large scale experiment) is completely full of mycelium of the very finest texture. It dries rapidly so it will be difficult to maintain sufficient moisture for good quality. We expect masses of small insignificant mushrooms and a quick " fall-off."

Jan. 9th. It was raining all day. The boss settled down to a week's arrears at his desk. Came a deputation from the staff. " We either work under cover or not at all." The boss looked up, " What's the difference ?" he asked.

Jan. 12th. I must try a little friendliness with the man who is doing a regular 2 lb. on trays in 6 weeks. He might tell me something—if it's only the truth ! My figure is 1·3, and hard going at that.

Jan. 21st. Contrary to expectations there have not been masses of insignificant mushrooms in the sand/peat mixture. Comparatively few have formed and the quality is very good. But why only a few from such a mass of lively-looking mycelium ? Too much root, therefore not enough fruit ? The basic cause is probably lack of air through closely-knit soil.

Feb. 5th. Along with about 450 other growers and friends from the Midlands and North, I have just seen the P.P./Darlington Film at Leeds. This, together with Mr. Gahm's address and the most effective Darlington hospitality, made up a most instructive and entertaining evening. The film is a remarkable piece of work, one of the best documentaries I've ever seen. The microscope shots of diseases and pests are miracles of precision photography, while the shots of live steam with no apparent steaming of the lens are a triumph of photographic ingenuity.

Feb. 8th. Our Yorkshire puddings, made in a small bun tin, tend when properly made to rise and form cups (so far we've been unsuccessful in forming handles). With luck the cups are completely intact, without holes, and if they're half filled with minced cooked mushrooms and topped up with gravy or mushroom soup, they provide a most surprising and delightful dish. I am quite intrigued by the change in flavour which takes place when cooked mushrooms are **minced.** Try it.

Feb. 11th. One of the soundest maxims in the whole of mushroom growing is " If in doubt, ventilate." We have recently seen the effects of air. Normally our spawn grows rapidly without house ventilation—in fact we keep the house closed until mycelium begins to appear on top of the casing. This time growth was good in the compost at casing time, but nothing appeared in the soil after three weeks. Examination showed that growth had almost vanished from the compost too. Before throwing it out we decided to try full ventilation and drying out. Within four days the compost at the side boards was completely covered with excellent new growth.

Feb. 16th. Where Hoof and Horn has been used to supplement Racing manure our yield is depressed by at least $\frac{1}{2}$ lb. per sq. ft. We've now had seven crops with this ingredient and in every case yield is badly down.

One crop with Hide meal as activator is equally low. Dried Blood or M.R.A. (used at half synthetic rate) gives our best results. I am informed that Hoof and Horn, though possessing the same nitrogen analysis as Dried Blood, may be too slow-acting.

Feb. 18th. At the rate of one average sized mushroom per day our famous mushroom-eating cat must account for about 12 lb. per year. £2 14s. 0d. per annum. It is probably the healthiest cat in Yorkshire.

Feb. 19th. Further to my Jan. 3rd. note. Mr. X's spawn is growing on two different soils in one house and in the same compost. There is an easily observable difference in the quality and *shape* of the mushrooms. Yet Mr. Y comes along and bets me a bottle of whisky that if I try his spawn it will produce a markedly better quality than Mr. X's or anyone else's. I insist that soil and its treatment are the quality makers. Mr. Y can't win. Or can he ?—I don't drink whisky.

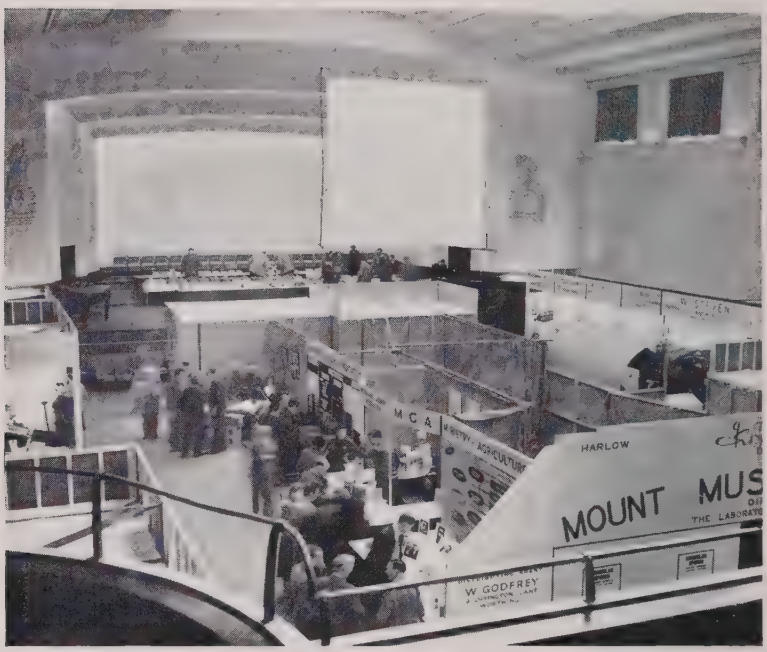
Mar. 2nd. It is now abundantly clear that our enforced use of a poor soil (our normal supply has been waterlogged since October) is reducing our cropping by nearly 1 lb. per sq. ft. Soil is the only thing that has been changed.

Mar. 5th. (Worthing, late evening). Probably at this very moment several pens are busy writing up what seems to me the most successful show ever held for mushroom growers. I'll leave others to eulogise. Two points. 1. One may see almost all one wants to see at a County Agricultural Show in one day. Yet I have found this one day quite inadequate to take in what I wanted from the comparatively few stands in this M.G.A. show. Every stand was a " snip." Next time we might try a two-day effort with even more showmen. There is so much to talk about and see in our business especially when everything is concentrated in one place. 2. Those responsible for showing the film might have made a better job of the projection. There were too many extraneous lights and I think the throw was a bit too long to give the best lighting and colour. The job was done much better in Leeds. Incidentally I heard several ladies (presumably non-growers) state categorically that they would eat no more mushrooms after seeing writhing masses of springtails and fat mushroom-eating maggots !

Mar. 6th. Heard at the Show. " Middlebrook in his Diary says M.R.A. composts are no good." I did NOT say that. I said (Jan. 5th.) " Our first attempts . . . . . have been a lamentable failure . . . . . we did not follow the orthodox composting methods." (Instead of " orthodox " I might have said " recommended.") The fact is that with a method very near to that recommended we have succeeded in producing a crop that is equal to the average of others on stable manure running concurrently. All recent crops have been low owing to soil trouble but the M.R.A. Synthetic is no worse than the rest.

Mar. 7th. The Show was not without its scientific discoveries. Commenting during Wednesday on the manifold eccentricities of the fungus, the wife of a grower said " Mushrooms must all be females—they're so temperamental."

AT THE GREAT



No exact attendance figures are available, but there can be little doubt that 1,000 people at one time or another visited the Mushroom Industry Exhibition in Worthing's Assembly Hall on Wednesday, 5th March, 1952.

What a fine hall it is, and how colourful and interesting and worthwhile were the exhibitors' many and varied stands. It was reported in the Trade Press that the savoury cooking demonstration by the S.E. Electricity Board had to be abandoned because of the crush—but that must have been the only hitch in a programme planned by the M.G.A. Publicity Committee and so carefully executed by our Secretary, Mr. Angus Watson. Congratulations and thanks to them and him, from the entire Industry ! And let us not forget the work of Mrs. Crowson behind the scenes.

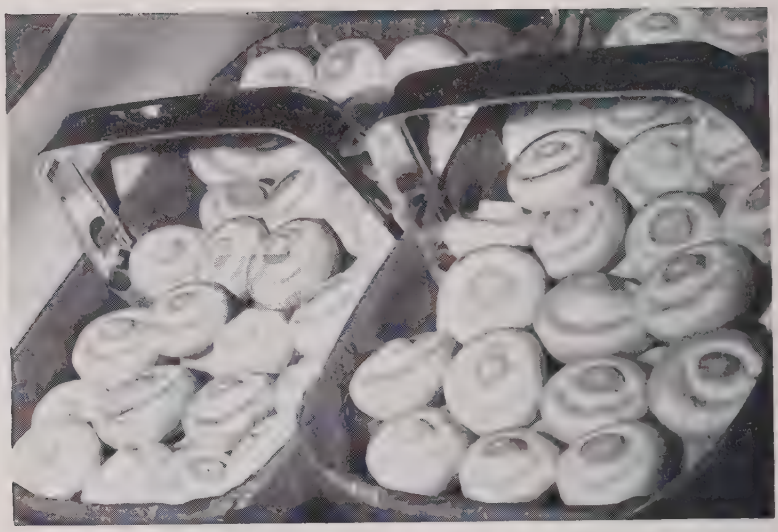
The Exhibition itself—which is the new equivalent of the annual Trade Show born and developed at Yaxley—was declared open by the mushroom-growing Mayor of Worthing, Councillor J. A. Frampton, who was introduced from the stage by the M.G.A. Chairman, Mr. John Stewart-Wood.

WORTHING SHOW

Mr. Frampton expressed the warm pleasure of the growers in the Worthing area at the M.G.A.'s decision to make this the first port of call for the Exhibition as it went on tour, and he hoped it would soon pay a second visit. Advances in mushroom growing since he used to go out into the fields looking for spawn had been staggering ; no-one could have dreamed in those days that within so short a period the art of growing would develop into the science it undoubtedly was to-day. Not so very long ago he used to be asked to pay 2/6d. a load for horse-manure ; compare that with the carefully-balanced ingredients of to-day's synthetic composts ! It was only recently, too, that there was no labour problem, and it was heartening to see that the engineers were coming to the rescue of the Mushroom Industry.

Among the many appreciated facilities were the licensed bar and the restaurant adjoining the hall, where excellent lunches and teas were served. Indeed, **it is difficult to imagine in what way the 1952 Exhibition could be improved,** particularly as it was rounded off with a showing of the colour film of *Mushroom Growing* made by Plant Protection Ltd. and W. Darlington & Sons Ltd. The lighting in the hall was inadequate for this film, or the screen too far removed, but everyone who saw it quite obviously enjoyed it, along with the interesting commentary given with such clarity by Miss E. M. Goodwin, of Plant Protection Ltd. If she wasn't thanked then, she is now, on behalf of all who listened to her.

The latest literature and advice were available here



These Mushrooms won the M G A. Challenge Cup

And these the Poupart Cup

Very keen interest was aroused by the seven competitive classes. The judge was Mr. C. P. Chamberlain, a former member of the M.G.A. Executive and one of the best mushroom judges in the country. The cups and money prizes were formally presented by Mrs. Arthur Hovell, wife of the Chairman of the Worthing and West Sussex Growers, to the following winners :

Class 1. The **M.G.A. Challenge Cup** (presented by the Harding Brothers, Tenterden), open to M.G.A. members only, for best three chips of white buttons packed 3 lb. in a 4 lb. chip :
1. (with £5 and miniature cup), **R. J. Hopkins,** Holly Hill Nurseries, Vines Cross, Horam, Sussex ;
2. T. T. Leach, Walford House, Smarden, Kent ;
3. Col. W. A. Turner, Poult House Gardens, Tonbridge, Kent.

Class 2. The **Mount Cup** (presented by Mount & Son, Canterbury), open, for best chip of white buttons packed 3 lb. in a 4 lb. chip :
1. (with £3 and miniature cup), **J. R. Oldfield,** Doddington Farms Ltd., Doddington Place, Sittingbourne ;
2. Colberry Nursery Ltd., Dappers Lane, Angmering, Sussex ;
3. A de B. Hovell, Church Farm Nurseries Ltd., Rustington, Sussex.

Class 3. The **Thwaites Cup** (presented by John Thwaites Ltd., Covent Garden), open, for the best two chips, one of not less than 3 lb. white buttons, the other not less than 2½ lb. white cups as packed for market :
1. (with £3 and miniature), **N. P. Ewart,** Rest Harrow Farm, West Chiltington, Pulborough, Sussex ;
2. Col. W. A. Turner ;
3. G. W. Boxall & Sons, Lansdowne Nurseries, Dappers Lane, Angmering, Sussex.

Class 4. The **Poupart Cup** (presented by T. J. Poupart Ltd., Covent Garden), open, for the most attractive pack to lead to an advancement in marketing or consumer demand :
1. **Lt. Col. M. McLellan,** Elan Valley Products Ltd., Dol-Afallen, Llandrindod Wells, Radnorshire.

Class 5. (for one chip of white cups packed 2 lb. per chip) :
1. (£1 10s.) **Colberry Nurseries Ltd.** ;
2. (£1) T. T. Leach ;
3. (10/-) W. Higgins, Standard Nurseries, E. Preston, Sussex.

Class 6. (for one chip white open mushrooms packed 2 lb. to a 4 lb. chip) :
1. (£1) **G. W. Baker** ;
2. (15/-) W. Higgins ;
3. (10/-) A. de B. Hovell.

Class 7. (for one chip brown buttons, 3 lb. in a 4 lb. chip) :
1. (£1 10s.) **A. de B. Hovell** ;
2. (£1) R. H. Saunders, Harefield Nurseries, Worthing.

The cash prizes were kindly given by W. Darlington & Sons Ltd., Worthing ; Geo. Monro & Sons Ltd., Waltham Cross ; and M. H. Pinkerton, Glasgow.

The mushrooms were afterwards sold on behalf of the M.G.A. by Mr. A. R. Healey, of Pouparts.

The winning Mushrooms in Class 6

LIST OF EXHIBITORS

R. A. Allen, Shepreth, Nr. Royston, Herts. ; **Atlas Basket Co. Ltd.,** Atlas Works, Harpenden, Herts. ; **Bradford Fertilizer Co. Ltd.,** Whitefield Place, Girlington, Bradford, Yorks. ; **British Basket & Besto Ltd.,** Irlam, Manchester ; **Burgess & Co.,** Bracknell, Berks. ; **D. C. Bushell & Co. Ltd.,** Sandhurst Corn & Grist Mills, Sandhurst, Camberley, Surrey ; **Cawdor Industries Ltd.,** Matlock, Derbys. ; **W. Darlington & Sons Ltd.,** Southcourt Road, Worthing ; **T. Elliott, Ltd.,** Eagle Mills, 120 New Church Road, London, S.E.5 ; **F. Gough & Sons Ltd.,** 63/69 Fishergate, Norwich ; **The Grower,** 49 Doughty Street, London, W.C.1 ; **Harvest Saver & Implement Co. Ltd.,** The Works, Kirby-moorside, Yorks. ; **Ministry of Agriculture (N.A.A.S.)** ; **Geo. Monro, Ltd.,** Hertford Road, Waltham Cross, Herts. ; **Mount Mushroom Spawn Laboratories,** Littlebourne, Canterbury, Kent and **J. E. R. Simons Ltd.,** Natts Farm, Harlow, Essex ; **The Murphy Chemical Co. Ltd.,** Wheathampstead, Nr. St. Albans, Herts. ; **Mushroom Growers' Association,** Yaxley, Peterborough ; **Mushroom Research Association Ltd.,** Yaxley, Peterborough ; **N.F.U. Show Society,** Bedford Square, London, W.C.1 ; **Pan Britannica Industries Ltd.,** Waltham Abbey, Essex ; **M. H. Pinkerton's Scottish Mushroom Laboratories,** Millerston, Glasgow ; **S. A. F. Sampson,** Rushmans Nursery, Oving, Nr. Chichester, Sussex ; **South-Eastern Electricity Board** ; **H. D. Steele & Son Ltd.,** 19 Railway Approach, Worthing ; **W. Stevens,** Thornwood Common, Nr. Epping, Essex ; **West Dock Timber Co. Ltd.,** Manchester Street, Hull ; **J. Wood & Son (Leeds) Ltd.,** 283 Kirkgate Market, Leeds 2.

The BIG QUESTION which now faces the M.G.A. is this: Where is the next Mushroom Industry Exhibition to be held? Shall it tour the country, as originally suggested, or make its permanent home in the South? What do Northern members say?

"The Grower" published a special Mushroom Number after the Show and these were among the illustrations. The photographs were specially taken by Basil Cox, and here are the captions accompanying them:

Top: Mrs. A. de B. Hovell presented the prizes at Worthing; but when she found that her husband was a prizewinner, Mrs. Hovell wasn't so anxious to hand over the cheque. Mr. Angus Watson (centre background) refereed the contest. He decided that Mr. Hovell had won—by a laugh.

Left: Mr. C. P. Chamberlain judging the mushrooms that won the M.G.A. Cup for Mr. R. J. Hopkins.

The Mayor of Worthing (Coun. J. A. Frampton) discusses a winning sample with Mr. Harold Darlington. (*By courtesy: Worthing Herald*)

Correspondence

The smaller grower, like myself, must sometimes feel very much out of the picture when he compares his own efforts with the layouts and equipment of the larger firms, and **visits** such as that by Mr. Atkins, Dr. Edwards and Mr. Watson to the Staffordshire area recently can do immense good throughout the M.G.A. It was grand to see them.

R. R. HOWSE.

The Editorial Board appears delighted at the decision to produce a monthly Bulletin. Printer A. S. MANEY stands between DR. R. L. EDWARDS and STANLEY MIDDLEBROOK on the right; ANGUS WATSON is in the centre, and next to him is BASIL HARDING; while on the extreme left is your EDITOR, believe it or not.

MUSHROOM HOUSES

1—Messrs. Geo. W. King Ltd.

The immediate requirements of growing mushrooms are warmth, moisture and oxygen, and many good crops are taken in temporary structures, adaptations and makeshifts. But the professional grower, with his need for year-round production, demands a growing house with a high degree of insulation and available at an economic price.

When we were approached by Dr. A. R. Rooke, of Four Marks, Hants., to design a mushroom farm for him we had at our disposal many years' experience as building specialists in the agricultural and horticultural world and, after much study and researching in the requirements involved, we were able to produce and erect houses to his entire satisfaction.

It must be noted that in a brick-built house a minimum of 9″ brickwork is required for load-bearing alone, and that efficient insulation is afforded by not less than 11″ cavity brickwork.

The principle we adopted was to do away altogether with load-bearing brickwork and use instead an easily erected precast concrete framework, then constructing the non-load-bearing walls of 4″ thick foamed slag concrete blocks. The latter material has a " U " value of 0·29 unrendered, as compared with 0·34 of 11″ brick cavity wall rendered and properly ventilated.

Since the frame work takes the load a wall formed of 18″ · 9″ · 4″ foamed slag blocks represents a great saving in labour and provides, at economic cost, the necessary degree of insulation. The blocks are light and easily handled, and their laying has been proved in practice to be much less expensive than bricklaying, area for area.

General view of Dr. Rooke's farm, showing the steam house block, one of the growing houses and 4′ 6″ concrete pathway leading to the turning shed.

Turning Shed, which also gives a typical view of a KING precast concrete framed building.

The growing houses of this particular scheme are 60′ × 18′ with an approximate capacity of 12,000 cubic feet. The steam house is of like construction but 30′ in length.

Roofing is of standard asbestos sheeting with a proved insulation board of asbestos fibre fitted underneath with a 4″ airspace between. The floor is of foamed slag concrete with a sand and cement topping.

Ventilation. A ridge vent runs the entire length of the house, controlled by six asbestos sheet flaps which can be fixed in any position. There are ten baffled ventilators, each 15″ square, just above floor level, two in each gable and three in each side-wall. The latter are staggered in relation to those in the opposite wall. The ventilators are controlled by sliding panels of asbestos sheeting and are fitted with wire mesh.

Heating is by low-pressure steam, installed by Burgess & Co. (Engineers) Ltd. In the growing houses, live steam can be released to maintain humidity from eight adjustable taps in the pipe lines. The steam or pasteurising house has perforated pipe lines in the floor which can be used independently of, or in conjunction with, the normal pipe loops around the walls of the house, for peak heating or spawn running temperatures. We understand that the Editor intends to publish, at a later date, articles on methods of heating mushroom houses, so we will not go into further detail on this aspect.

Dr. Rooke's farm is most compact, the block consisting of steam house, soil store and packing shed being separated by only a few feet from the growing houses. The position of the turning shed has been

determined by conditions prevailing at the site. Dr. Rooke grows on the Tray System and, although we understand he has not yet used them to full capacity, the steam house and each growing house can accomodate 500 of his 47″ × 22″ trays, giving a potential cropping area of just under 4,000 sq. ft. per house. The excellent insulation of the houses, particularly in hot weather, has been marked. The houses, of course, are equally adaptable to shelf culture.

We would like to thank the Editor for granting us space in the Bulletin for this article, and also various members of the M.G.A. for co-operation and informative advice. "AGRIKINGER"

MY WAY OF GROWING

7—Dr. A. R. Rooke, of Four Marks, Hants.

Since the completion last Summer of our farm (described above) we have laid down about 16,000 sq. ft. in trays, so obviously our experience is as yet insufficient to allow us to reach any other than very general conclusions.

We get heavy manure, adding a proprietary activator at the first turn and gypsum at the second or third. We give up to four turns at weekly intervals. Twice we have got three thousand feet from twenty tons, but the number of trays filled each month varies quite a lot with the quality of the manure.

Two days are occupied in filling the trays and conveying them on Geest trucks, via a concrete path, into the steam house. Our trays are 47″ by 22″ with wire bottoms, and are easily handled. We have never been able to understand the talk about "handling charges" often advanced against the Tray System. If we were not handling trays we should have to be barrowing, which is just as heavy and much more messy and with more cleaning up afterwards. In the steam house the trays are stacked twelve high with 2″ battens between to keep them well apart. Our steam house was specially designed for the purpose, and with live steam we can get a house temperature of 120°—130° F. in about six hours. This is maintained for twelve hours and the house then fumigated with BHC. We prefer to cool down gradually, charting the rate of fall in the compost temperature, as this gives us a more accurate idea of when spawning temperatures will be reached. We spawn at 80°. There is always some condensation on the top trays, but it is superficial and we have not found that it interferes with spawn run.

Using moist spawn we do 35 ft. to the quart. The four of us spawn up to 500 trays and restack them, with the battens between, in one working day. There is no scope here for sub-normal labour ; he who spawns must lift ! The thermostat is then set at 72° and the floor pipes used to pass in just enough steam to keep a high humidity. We allow two to three weeks before casing.

In the growing houses the trays are arranged in three double rows. The gable ends of each line of trays are supported on metal brackets bolted at twelve inch intervals to pairs of uprights. These uprights

consist of 1″ iron piping and fit into precast slots in concrete blocks 3″ thick. The whole thing can be assembled or dismantled in a matter of seconds.

" For myself I like to grow on the dry side," an old grower said to me some time ago, and, taking his well-meant advice, so did we until we discovered that, with trays, and in our houses at least, no advice could be worse. Really moist casing soil, an R.H. of at least 85% at 58° have given us our best flushes. For any marked departure from these conditions we have been punished by a flush of thousands of small, useless mushrooms—" ruddy little perishers," according to the staff. Our experience to date has been that the small mushroom menace is caused as much —if not more—by failure to maintain proper humidity, etc., than by the diminished air movement we are told exists in tray-filled houses. Our houses are particularly well ventilated. The number of possible combinations of the ventilators would delight a football-pool's expert, and it will be understood that we are still at the stage of experimenting. We have not fitted exhaust fans and hope to be able to do without them.

We do as much trashing as time permits. Repeatedly we have seen clumps of good mushrooms coming through trashed areas which would otherwise have been barren. The best tool for the job is an old grapefruit knife, curved on the flat and really sharp.

The history of the second house we filled fully illustrates the disease aspect. We used a casing soil from the second spit and sterilised it with 5% formaldehyde solution. For some reason, either a slip-up in the technique or from accidental contamination, we had disease from the very start. For the next twelve weeks we fought a ding-dong battle with *Verticillium*, Bubble, *Dactylium* and Bacterial Spot. During that time we sprayed with Bordeaux mixture, copper and ammonium carbonate mixture, and even 2% formaldehyde. We also fumigated twice with two pints formaldehyde to the 1,000 cubic ft. This latter manœuvre interfered in no way with production except that, of course, all exposed pin-heads and buttons grew up stained and had to be discarded ; but the next flush was perfectly clean. The flush after that was diseased, and we had to start all over again !

The significant thing was that despite all the mauling about, the chemicals used, and the necessary interruptions in normal ventilation, the house continued to yield flush after flush of large plump mushrooms, many of them useless because of disease. It nearly broke our hearts to carry them by the hundredweight to their burial ground. A shelf grower with only 750 ft. in his house would probably have thrown the lot out long before, but we had nearly 4,000 ft. as hostages to fortune. At the last we had the satisfaction of getting a couple of flushes of nearly perfect mushrooms. It was a salutary experience and rubbed in the necessity of ruthless trashing and vigilance.

Pending arrangements to steam-sterilise our own soil, we are having encouraging results from the clay known as " overburden," dug from the Calvert Pit near Bicester. The average of several samples shows a pH of 7·6. Unforunately it comes in great sodden globs which

take a lot of time to dry out before they will pass through the soil-breaker. Incidentally, ours is what might be termed the Poor Man's Soil-Breaker—a cattle-cake crusher. There must be many of these lying unwanted up and down the country and farmers are glad to get rid of them. Ours cost £2. It can easily be converted so that it can be power-driven if required.

RESEARCH OPEN DAY

As the Mushroom Trade Show was at Worthing this year, the Open Day at Yaxley on Wednesday, 23rd April, will be concerned only with the work of the Research Station.

Visitors between 10 a.m. and 4 p.m. will be able to see exhibits displaying work in progress and results obtained on compost, casing soil, and disease.

A limited number of meals will be reserved at the Norman Cross Hotel for those holding tickets.

In the evening, at 6 o'clock, two films will be shown in the Fitzwilliam Ballroom at the Angel Hotel, Priestgate, Peterborough. They are the enthralling Plant Protection/Darlington colour film, "Mushroom Growing," and the scientific "Experimental Studies on Fungi Predatory on Soil Eelworms."

Admission is free, but only by ticket, available from the Research Station.

REFRESHER COURSE, 1952

The annual Refresher Course for mushroom growers and advisers will be held at the Angel Hotel, Priestgate, Peterborough (opposite the Town Hall) on Thursday, 24th April. The programme is as follows :

Morning Session (10 a.m.—12.30 p.m.) : Chairman, Fred. C. Atkins. Dr. R. L. Edwards : Introductory survey. The use of some new fungicides. Mr. M. C. Luxmoore : Buildings for mushroom growing. Dr. I. F. Storey : Ventilation of mushroom houses in practice. Mr. Stanley Middlebrook : Short Composting.

Afternoon Session (2 p.m.—5 p.m.) : Chairman, Mr. J. Stewart-Wood. Mr. H. G. Boxall : Mushroom growing on a glasshouse holding. Mr. P. B. Flegg : Some properties of casing soils and their management. Dr. R. L. Edwards : Experiments on the mushroom farm.

There is an admission charge of One Guinea. Application should be made to Yaxley, enclosing cheque, as soon as possible.

FARM WALK IN KENT, 5th APRIL

The next meeting of the Kent, Surrey and East Sussex Area will be a visit to the mushroom houses at Loddington Farm Ltd., Linton, near Maidstone, at 2 p.m., on Saturday, 5th April, by kind invitation of Mr. Gordon Smith. Tea will be available at the farm, and will be followed by a discussion.

NEW M.G.A. MEMBERS

(Up to and including 1st March, 1952)

GROWER MEMBERS

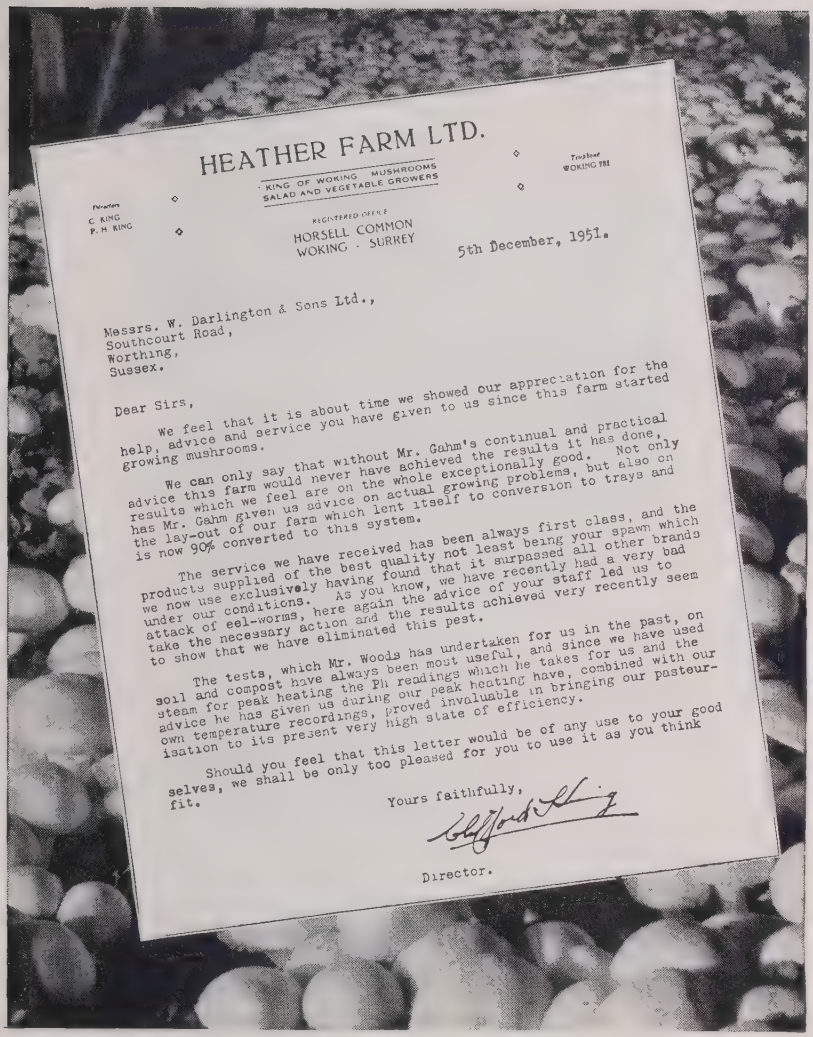
Beck, Alfred, Apartado Aereo 4771, Bogota, Colombia, S. America.
Carbide Ltd., Collooney, Co. Sligo, Eire.
Cochrane, J., Greenhead Farm, Rescobie, By Forfar, Angus, Scotland.
Cox, J. C., Farringdon, Townsend Farm, Harpenden, Herts.
Debenham, Sir Ernest R., Moor Lane House, Briantspuddle, Dorchester, Dorset.
Dunbar, W., c/o G. H. Vaudin, Esq., Moorside Cottage Nurseries, Verwood, Dorset.
Faulkner, M. M., Mill Cottage Market Garden, Horam, E. Sussex.
Godfrey, W., 19 Offington Lane, Worthing, Sussex.
Grevenkop-Castenskiold, E. W., Store Frederikslund Gods, Frederikslund, Denmark.
Hansen, A., Kastrup, Denmark.
Harrison, W., Coach House, Westwell, Ashford, Kent.
Higgins, W., Ivy Cottage, Moss Lane, Lathom, Ormskirk, Lancs.
Holmes, T. P., Biggin Farm, Challock, Ashford, Kent.
Hopkins, R. J., Holly Hill Nurseries, Vines Cross, Horam, E. Sussex.
Hunt, J., Torr's Farm, Walmer Bridge, Preston, Lancs.
Krzymowski, S. K., Abbots Manor Mushroom Farm, Saffron Walden, Essex.
Lambert, Lt. Col. H. G., Melbourne House Gardens, Malmesbury, Wilts.
Leaver, L. H., R.R. No. 1., Port Credit, Ontario, Canada.
Pauwels, Frans, Boterlaerbaan 292, Deurne-zuid, Antwerp, Belgium.
Rowland, E., 39 Surrey Street, Sheffield 1, Yorks.
Shackleford Nurseries, Eashing, Godalming, Surrey.
Stephensen, G. H. & F., 61-63 King Street, Huddersfield, Yorks.
Thomas, R. H., Fairfield Nurseries, Kingsteighton, Devon.
Ward, Edward, 41 Bradford Road, E. Ardsley, Wakefield, Yorks.
Weatherall, Lt.-Col. N. E., Sandford House, Richmond, Yorks.
Williams, E. C. F., High-Leyes, By-Pass Road, Church Stretton, Shropshire.

HONORARY MEMBERS

Bibliothek der Hochschule Fuer, Garten bau u Landeskultur, Sarstedt 6, Hanover, Haus Steinberg, Germany.
Blake, R., Windyridge, 67 Arundel Road, Worthing, Sussex.
Blum, D., Loews International Corporation, 1540 Broadway, New York, U.S.A.
Casamassima, Dr. G., Via Bernini 45, Napoli, Italy.
Colebrooke, G. L., Eweleaze Cottage, Tonerspuddle, Dorchester, Dorset.
Collier, J. C., Fairbourne Manor, Harrietsham, Kent.
Collins, B. R. C., Merry Orchard Produce, Whiteparish, Salisbury, Wilts.
Jepson, A. E., 242 Eye Road, Peterborough, Northants.
Jones, H. D., Hythings, Station Road East, Oxted, Surrey.
Mawby, W. H., 67 Danecroft Road, Herne Hill, London, S.E.24.
Molinas, Alfredo Ma., Diputacion 282, Barcelona, Spain.
Ostrom Mushroom Co., 12645 27th Avenue, North East, Seattle 55, Washington, U.S.A.
Pearce, F., 28 Harrowby Estate, Grantham, Lincs.
Riley, M. P., The Summit, 219 Burton Road, Derby.
Thomas H. Seymour, Oerley Hall, Oswestry, Shropshire.
Topham, Dr. H. W., Miriam Ward, Guy's Hospital, London, S.E.1.
Townsend, H. C., 121 Kensington Road, North End, Portsmouth, Hants.
Van Uden, Dr. N., Dept. of Micologia, Instituto Botânico, Lisbon, Portugal.
Wyndham-Jones, H., Llanfoist, Abergavenny, Monmouth, Wales.

CHANGES OF NAME OR ADDRESS

African Mushroom Industries, Box 75, P.O. Hillcrest, Natal, S. Africa.
Bennett, A. D., Glan-y-Mor, Dufftown, Banffshire, Scotland.
Bramwell, R. Lincoln, 7 Tivoli Road, Cheltenham, Glos.
Canga Mushrooms Ltd., 16 Oxford Street Chambers, Reading, Berks.
Edwards, Misses J. & A. H., Speen Lodge Hotel, Bath Road, Newbury, Berks.
Ewart, N. P., Rest Harrow Farm, W. Chiltington Common, Pulborough, Sussex.
Fell, N. W., Hillrise, King Edward Street, Penguin, Tasmania, Australia.
Few, Major M. E., 1 Campbell Road, Cranbourne, Salisbury, S. Rhodesia.
Fraser, R. J., Aylesbury Mushrooms, Ford, Aylesbury, Bucks.
Hall, A., Riversdale, Lyminge, Kent.
Keens, W. F., Meadway Mushroom Farm, Littlehampton Road, Durrington, Worthing, Sussex.
Lancaster, B. J., 298 Dewsbury Road, Wakefield, Yorks.
Newstead, Mrs. A. F., 36 Augustus Road, Birmingham 15, Warwickshire.
Nommensen, D. M., Heather Farm, Horsell Common, Woking, Surrey.
Simpson, C. A., Wellington Hill Nurseries, Red Hall Lane, Shadwell, Leeds.
Wakelyn-King, J. C., c/o Bank of New South Wales, Moss Vale, N.S.W., Australia.



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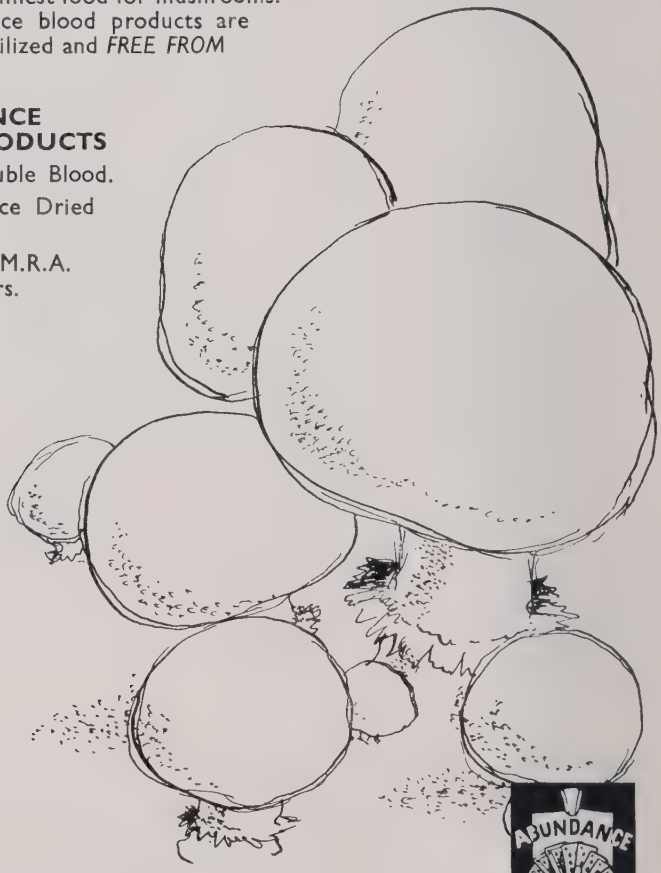

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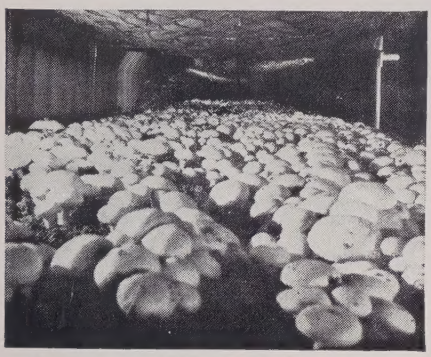

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